

Notice of Allowability

Application No.

10/740,464

Examiner

Anabel M. Ton

Applicant(s)

YOO ET AL.

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 03/14/07.
2. ☒ The allowed claim(s) is/are 1-38.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Allowable Subject Matter

1. Claims 1-38 are allowed.
2. The following is an examiner's statement of reasons for allowance: The prior art cited does not anticipate individually or teach in combination the following limitations:
3. Nauta et al, although disclosing a display device with multiple light sources and an optical shutter element including means for selectively transmitting light for one group of rows of pixels or groups of columns of pixels, Nauta does not disclose the following features limitations:
 - With regards to claim 1, the prior art cited did not teach a main light guide plate defined into man number of regions for a field sequential driving; a plurality of auxiliary light guide plates arranged below edge portions of the main light guide plate; first mid second reflection plates arranged below the main light guide plate and the auxiliary light guide plates; a plurality of light source parts arranged at a predetermined interval at sides of the auxiliary light guide plates; a housing configured to enclose at least parts of the main light guide plate, the auxiliary light guide plates and the light source parts.
 - With regards to claim 7, the prior art cited did not teach a first to n-th light guide plates corresponding to an n number of regions for a field sequential driving; a reflection plate arranged below the first to n-th light guide plates; in particular, there is no motivation found to use a plurality of light source parts arranged at a predetermined interval at both sides of the first to n-th light guide plates; and a

PCB substrate provided with the light source parts arranged at both sides of the first to n-th light guide plates. In particular the prior art cited did not teach the feature of a first to nth light guide plates with light sources arranged at both sides of the first to n-th light guide plates

- With regards to claim 11, the prior art cited did not teach upper and lower light guide plates each divided into first to n-th regions for a field sequential driving; a plurality of light sources arranged in a zigzag configuration at sides of the first to n-th regions of the upper and lower light guide plates; a first reflection plate arranged below the lower light guide plate; and at least one second reflection plate each positioned below one of the first to n-th regions of the upper light guide plate, adjacent to which the light sources are arranged. In particular the prior art cited did not teach the elements of this claim in combination with the feature of the light sources arranged in a zigzag configuration arranged at sides of the first to n-th regions of the light guides.
- With regards to claim 18, the prior art cited did not teach a light guide plate divided into an n number of regions for a field sequential driving; a reflection plate arranged below the light guide plate; a plurality of light sources arranged at a predetermined interval at sides of the light guide plate; a PCB substrate supporting the light sources; and an optical shutter arranged above the light guide plate and driven in synchronization with an operation of the light sources. In particular the prior art cited does not teach the feature of the optical shutter driven in synchronization with an operation of the light sources.

- With regards to claim 26, the prior art cited does not teach the features of this claim, in particular a means for field sequentially driving the light sources and switch means for driving the optical shutter in synchronization with the light sources.
- With regards to claim 29, the prior art cited does not teach the features of this claim, in particular the combination of the main light guide plate, auxiliary light guide plates with the light sources arranged at intervals at sides of the auxiliary light guide plates.
- With regards to claim 31, the prior art cited does not teach the features of this claim, in particular the combination of a first to n-th light guide plates corresponding to an n number of regions of sequential driving and a plurality of light sources positioned at intervals at both sides of the first to n-th light guide plates, this structure including a liquid crystal panel;
- With regards to claim 33, the prior art cited does not teach the features of this claim in particular the combination of a first to n-th light guide plates corresponding to an n number of regions of sequential driving and a plurality of light sources positioned at intervals at both sides of the first to n-th light guide plates in a zigzag configuration, this structure including a liquid crystal panel;
- With regards to claim 35, the prior art cited does not teach the features of this claim in particular the combination of a first to n-th light guide plates corresponding to an n number of regions of sequential driving and a plurality of light sources positioned at intervals at both sides of the first to n-th light guide

plates, an optical shutter arranged above the light guide plate and driven in synchronization with an operation of the light source this structure including a liquid crystal panel;

- With regards to claim 37, the prior art cited does not teach the features of this claim in particular the combination of a plurality of light sources arranged on a substrate located directly below the liquid crystal display device; a diffusion plate arranged directly above the light sources, for uniformly diffusing light irradiated from the light sources; and an optical shutter divided into an n number of regions for a field sequential driving and driven in synchronization with the light sources, the optical shutter being over the diffusion plate; and a liquid crystal panel above the backlight unit.
- With regards to claim 38, the prior art cited does not teach the features of this claim in particular the combination of the backlight unit including: a plurality of light sources arranged on a substrate; a diffusion plate arranged above the light sources, for uniformly diffusing light irradiated from the light sources; and an optical shutter divided into m a n number of regions for a field sequential driving and driven in synchronization with the light sources; a liquid crystal panel above the backlight unit; and wherein the liquid crystal panel includes first and second glass substrates attached to each other with a space there between, and a liquid crystal layer interposed between the first and second glass substrates,

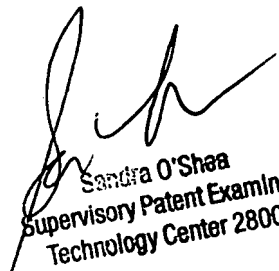
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anabel M. Ton whose telephone number is (571) 272-2382. The examiner can normally be reached on 08:00-16:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Art Unit 2875


Sandra O'Shea
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Technology Center 2800

AMT

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